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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/813,304      | 03/31/2004  | Jeong-Ho Lee         | 6192.0366.US        | 5202             |

32605 7590 06/14/2007  
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SAN JOSE, CA 95110

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| EXAMINER |
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NGUYEN, DUNG T

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| ART UNIT | PAPER NUMBER |
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2871

|           |               |
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| MAIL DATE | DELIVERY MODE |
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06/14/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/813,304

Applicant(s)

LEE ET AL.

Examiner

Dung Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 7-13, 18 and 24-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 14-17, 19-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/16/2007 has been entered.
2. Applicants' amendment dated 02/20/2007 has been received and entered. Claims 1-6, 14-17 and 19-23 are remain pending in the application. Claims 7-13, 18 and 24-27 stand withdrawn from consideration.
3. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, 14 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda et al., US 7,224,421.

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As the above claims, Takeda et al. disclose a liquid crystal display (LCD) device (figure 52), in which a thin film transistor (TFT) array panel comprising:

- a substrate (17)
- a gate line (31)
- a gate insulating layer (40)
- a TFT having a semiconductive layer, source/drain electrode (according to an active matrix type LCD)
- a first passivation layer (protect layer 43);
- a pixel electrode (13) having a cut-out (slip 21)
- a second protrusion (20C)

Takeda et al. figure 52 do not explicitly disclose a first protrusion. Takeda et al. figure 69B do disclose a first protrusion (20B) can be formed directly over a passivation layer (40) and over the bus line (31). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to employ the Takeda et al. device as shown in figure 52 to have a first protrusion formed directly over the passivation layer as shown in Takeda et al. figure 69B in order to improve a viewing-angle (by forming a multi-domain display)

6. Claims 4-6 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda et al., US 7,224,421, in view of Kim et al., US 2002/0163604 A1.

As to claims 4-6 and 15-17, Takeda et al. do not appear to explicitly specify what its auxiliary common electrode (15) overlaps. However, Kim teaches and discloses that a storage electrode at least overlapping a pixel and teaches that: " ... the storage capacitance is essential

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element to accomplish improvement of screen quality, thereby causing lowering of screen quality when the storage capacity is decreased below a predetermined level." [0039].

It would have been obvious to one of ordinary skill in the art of liquid crystals at the time the invention was made to modify Takeda et al. display in view of Kim et al. for high screen quality through controlling storage capacitance.

Thus, claims 4-6 and 15-17 are rejected.

7. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda et al., US 7,224,421, in view of Kim et al., US 2002/0163604 A1, and further in view of Nonaka et al., US 6,897,918 B1

As to claims 19 and 20, the modification to Takeda et al. do not appear to explicitly specify a spacer having a height larger than the protrusion and disposed on the same layer as the protrusion and that the protrusion and spacer comprise an organic material. Nonaka teaches a color filter and protrusion and teaches spacers, protrusions and a spacer made of the same material as the protrusion for controlling liquid crystal alignment (Column 3, Lines 30-40). It would have been obvious to one of ordinary skill in the art of liquid crystals at the time the invention was made to modify Takeda et al. in view of Nonaka for controlling liquid crystal alignment.

Thus, claims 19 and 20 are rejected.

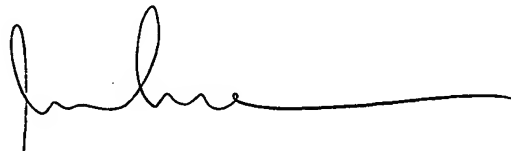
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Nguyen whose telephone number is 571-272-2297. The examiner can normally be reached on Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DN  
06/11/2007



***Dung Nguyen***  
***Primary Examiner***  
***Art Unit 2871***